



A Division of Northern Star Industries, Inc.
P.O. Box 787 Iron Mountain, MI 49801-0787
ISO 9001:2008 REGISTERED
bossplow.com

BH-12 BOX PLOW

INSTALLATION & OWNER'S MANUAL

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BOSS Products / Northern Star Industries, Inc. reserves the right under its continuous product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used herein.

 **WARNING**

Serious injury or death can result if you do not follow these instructions and procedures which are outlined further within your owner's manual.

- NEVER get body parts between Plow System and vehicle while servicing or operating.
- NEVER position body parts between moving parts of the Plow System while servicing or operating.
- NEVER use a backhoe/loader exceeding a Gross Vehicle Weight Rating of 30,000lbs. Exceeding this GVWR could result in an accident or damage.
- Read this manual and all labels carefully. Follow the operating procedures described.
- Follow all Operator Safety instructions found in your Backhoe/Loader Owner's Manual.
- When transporting, position plow so as not to block vision.
- NEVER change blade position when transporting.
- NEVER exceed 10 mph when plowing snow.
- NEVER exceed 5 mph while changing blade position.
- Make sure plow is properly attached and secured before moving vehicle.
- NEVER operate plow with loose binders or chains.
- Always lower blade when vehicle is not in use.
- NEVER ride on Plow System.
- NEVER lift persons on Plow System.
- NEVER operate on steep inclines.
- Operators should always use vehicle seat belts and all other applicable personal protective equipment while operating plow.
- Always remove plow from machine before servicing.

 WARNING

POTENTIAL HAZARD

Operating Plow System without proper instruction.

WHAT CAN HAPPEN

Loss of control, accident.

HOW TO AVOID THE HAZARD

The risk of an accident is greatly increased if the operator does not know how to operate the Plow System properly in different situations.

All operators must read and understand the Owner's manual and instruction labels before operating the system.

 WARNING

POTENTIAL HAZARD

Operating the vehicle with the Plow System not properly attached. The plow is not fully engaged or secured.

WHAT CAN HAPPEN

Loss of control, accident.

HOW TO AVOID THE HAZARD

Never operate the vehicle when the Plow System is not properly attached.

 WARNING

POTENTIAL HAZARD

Operating the vehicle with the Plow System in a position that blocks your vision.

WHAT CAN HAPPEN

Collision with obstacle or another vehicle.

HOW TO AVOID THE HAZARD

Never operate the vehicle when the Plow System is in a position that blocks your vision.

Safety

WARNING

POTENTIAL HAZARD

Positioning body parts on or between Plow System while operating or servicing Plow System or the vehicle.

WHAT CAN HAPPEN

Severe injury or death can occur if a person gets caught between moving parts or falls while vehicle is in motion.

HOW TO AVOID THE HAZARD

Never ride in, ride on, or stand next to Plow System while someone is operating it or the vehicle.

WARNING

POTENTIAL HAZARD

Exceeding recommended speed limits set for operation types.

WHAT CAN HAPPEN

Loss of control, accident.

HOW TO AVOID THE HAZARD

Do not exceed recommended speed limits. Always travel at proper speed for terrain, visibility, operating conditions, and your experience.



A REVOLUTION AGAINST SNOW

Congratulations on purchasing the finest box plow made. The BOSS sets the standard for quality, reliability, craftsmanship, and performance. Our products are designed, built, and proven in Michigan's rugged Upper Peninsula, where winter is a way of life. And we back it all up with exceptional customer service and satisfaction. We're not just setting the standard. We're leading the way.

The BOSS SNOWPLOW has been carefully designed and built for years of carefree performance.

To keep your BOSS PLOW in top shape, take a few minutes to study this manual. It will show you how to use and service the BOSS, familiarize you with all of its parts, and give you helpful tips on plowing snow.

If you have further questions, your local BOSS DEALER is the person to talk to. They know your plow well and want your complete satisfaction.

IMPORTANT

Keep this section for your record.

Date Purchased: _____

Model Purchased: _____

Plow Serial Number: _____

PURCHASED FROM

Dealer Name: _____

Dealer Address: _____

Dealer Phone No.: _____

Tips on Plowing Snow

- Know the area you are plowing, hidden obstructions such as curbs, sidewalks, pipes, etc. can cause damage to your plow or vehicle.
 - Do not let the snow accumulate; always plow with the storm.
 - Always wear your seatbelt when plowing snow.
 - Always lower the blade when parking your vehicle. This reduces the load on your vehicle's hydraulic system and guards against any potential mishap caused by a falling plow.
 - Always remember to plow at a safe speed. The faster you plow the harder you will hit hidden obstructions.
 - Do not get body parts between or under the plow and vehicle when servicing or operating the plow.
 - When transporting, position plow so as not to block vision.
 - Do not change blade position while traveling.
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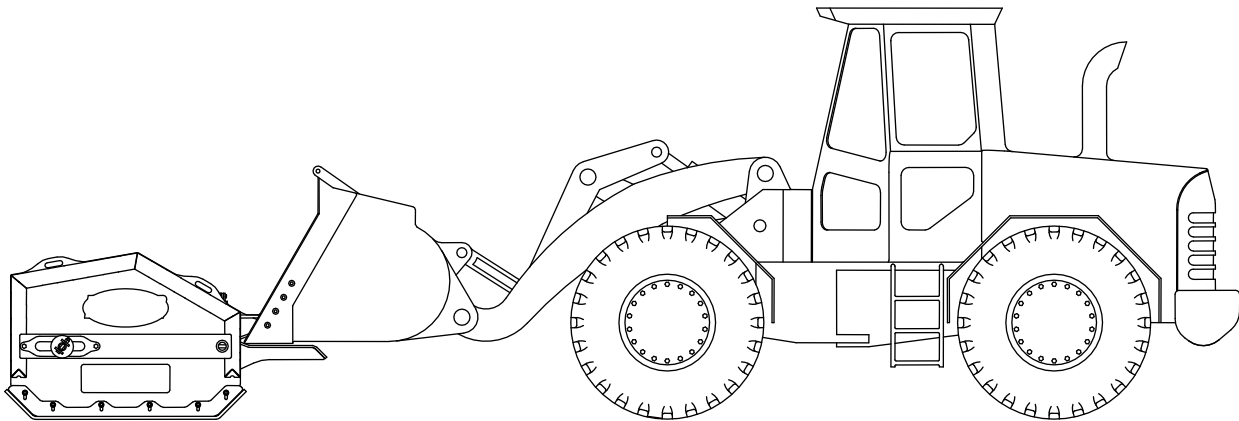


Figure 1. Proper Plowing Orientation

G10653

- Maintain bucket and hitch orientation shown in Figure 1. Wing positions will vary with terrain. Starting with the slip hitch in the middle of the slot will allow the plow to float and better follow the contours of the ground.
- If plow orientation is incorrect, chattering or insufficient contact may result.
- For more plowing tips please visit www.bosspow.com.

Box Plow Assembly Procedure

Box Plow Assembly Procedure

Note: This manual is used for the assembly of the BOSS BH-12 trip-edge box plow. Part numbers for the BOSS BH-12 trip-edge box plow are listed on the parts diagram in this manual.

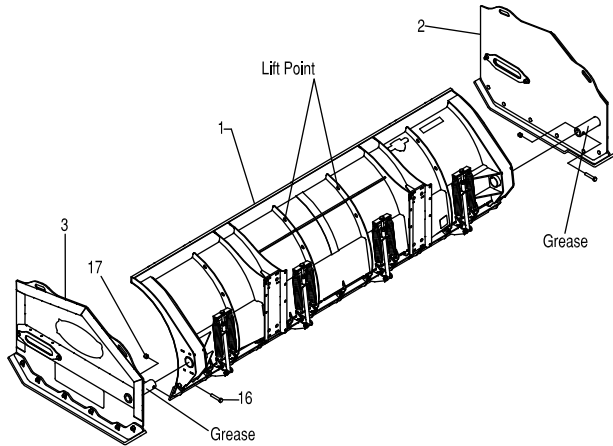


Figure 2. Wing Attachment

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1. Apply grease to wing bushing tubes then insert left wing (2) and right wing (3) into their corresponding mounts on blade (1). Use lift points if necessary for alignment.
2. Secure the wings by inserting **HDW03046** ¾"-10x4" bolt (16) through the mounting tube. Then tighten **HDW03037** ¾"-10 lock nut (17).

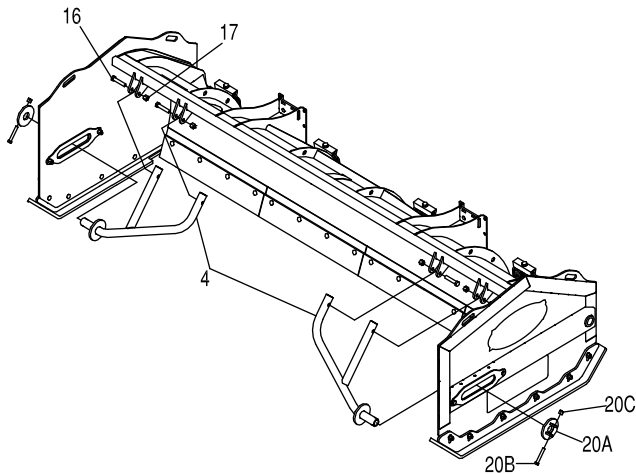


Figure 3. Wing Brace Attachment

G10658

3. With the blade supported by lift points, slide the wing

brace (4) into the wing slot.

4. Rotate the brace to line up with the tabs on blade top.
5. Insert **HDW03046** ¾"-10x4" bolt (16) through tabs and brace, then tighten **HDW03037** ¾"-10 lock nut (17).
6. Wing arm bushing (20A) onto wing brace. Insert **HDW01706** 5/8"-11x4" bolt (20B) through capture plate and brace.
7. While holding arm bushing (20A) against wing, tighten **HDW05619** 5/8"-11 lock nut (20C).

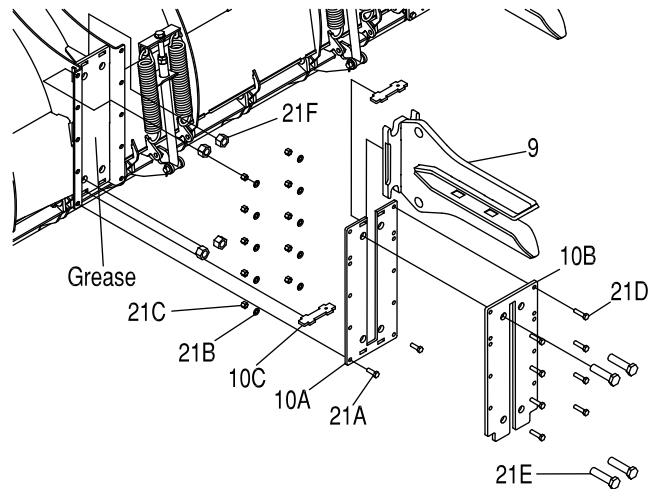


Figure 4. Slip Hitch Assembly

G10664

8. Apply grease to fork bearing surface. Place keyed spacer plate (10C) into lower notches on back of blade.
9. Loosely attach slotted retainer plate (10A) to back of blade using **HDW01728** ½"-13x1½" bolt (21E). Place **HDW01728** ½" washer (21B) and **HDW01748** ½"-13 lock nut (21C), in front of flange located on back of blade.
10. Slide bucket fork (9) down into slotted retainer plate until it rests at bottom. Then insert upper keyed spacer plate (10C) into notches on back of blade.
11. Bolt slotted retainer plate (10B) using **HDW01755** ½"-13x2" bolts (21D) with **HDW01728** ½" washers (21B) and **HDW01748** ½"-13 lock nuts (21C).
12. Insert **HDW07703** 1"-8x4" bolts (21E) and tighten all fasteners to recommended torque. See Figure 9.

NOTE: **HDW07703** 1"-8x4" Bolts are used as stop pins and only need to be snug. Over tightening may cause damage and loss of functionality.

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Box Plow Mounting and Removal Procedure

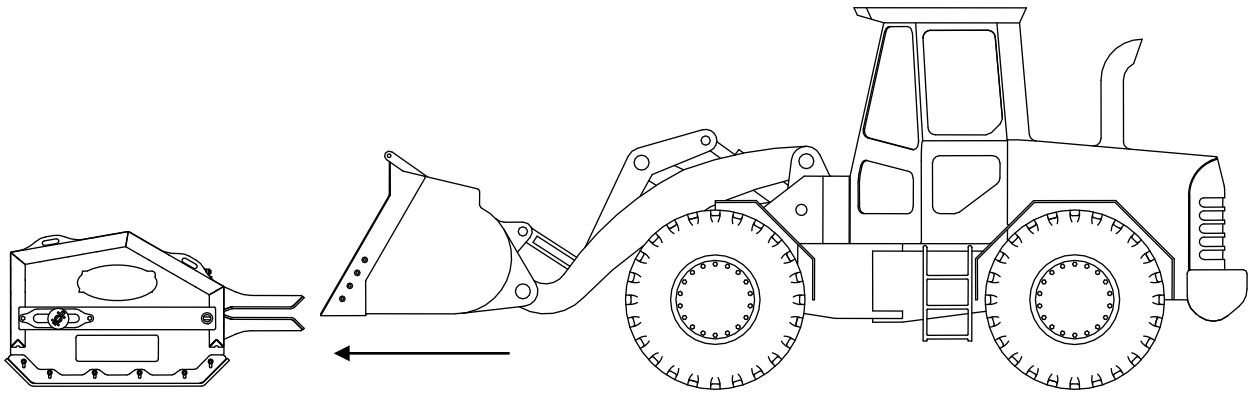


Figure 5. Mounting Procedure

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1. Approach plow slowly, level bucket and adjust bucket height as necessary.
2. Pull into the plow until the bucket bottoms in the fork pockets.
3. Put vehicle in park and engage parking brake before leaving vehicle.

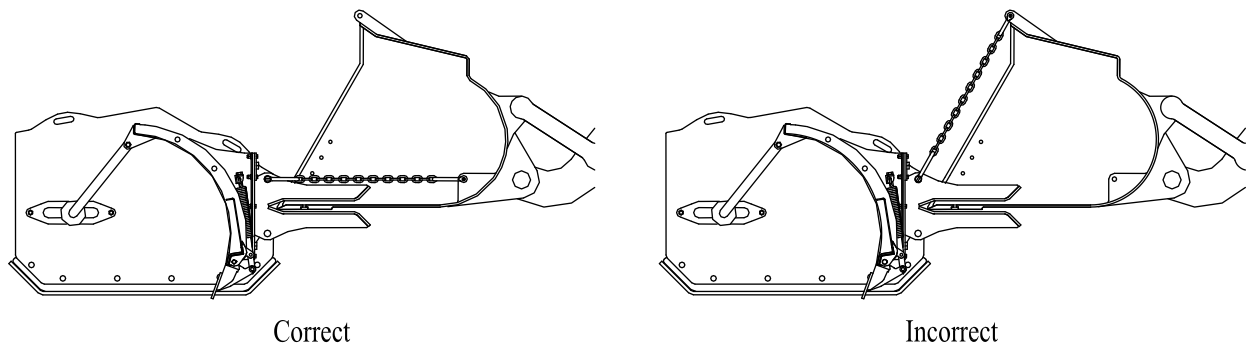


Figure 6. Proper Tab Placement

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- Tabs for mounting chains should be located in such a manner that the chain is level when the plow is attached. See Figure 6. The tabs should also be located in line with the hitch forks. See Figure 7.
- Use at least 3/8" P70 transport chain.
- Ratcheting chain binders are recommended as lever type binders can loosen with use.

Box Plow Mounting and Removal Procedure

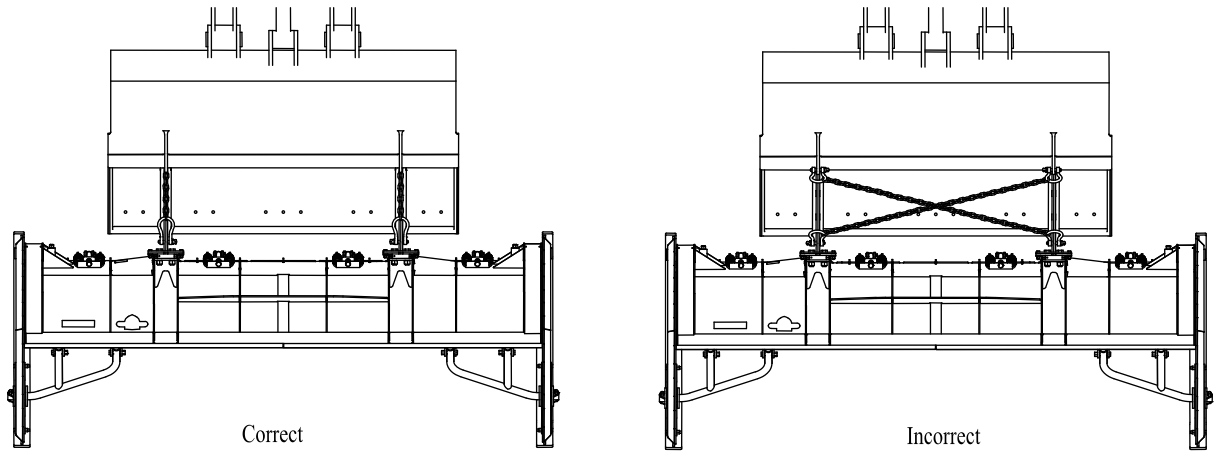


Figure 7. Proper Chain Placement

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4. Loop chain through hole in hitch fork and bucket mounting tab or clevis; then use ratcheting binder to secure loose ends of chain. Do not cross chains as the slip hitch assembly will bind. See figure 7.

Snowplow Removal Procedure

1. Locate a suitable area to place the plow, free of obstructions and inclines.
2. Carefully lower the plow to the ground.
3. Put vehicle in park and engage parking brake before leaving vehicle.
4. Slowly release chain tension and remove binders.
5. Carefully back the vehicle away from the plow.

Maintenance and Storage

Maintenance

Your BOSS PLOW is designed for reliable service with minimal maintenance. To ensure that it gives you the same high performance year after year, please use it properly and observe the following maintenance precautions.

- Inspect the following on a regular basis:
- All fasteners, pins, retainers, nuts and bolts for tightness. *See Recommended Bolt Torque located in this manual.*
- Cutting edge wear.
- Wing shoe wear.
- Apply grease to slip hitch assembly and wing hinge bushing. See Figure 2 and Figure 4.

Putting the Plow into Storage

1. Drive the snowplow to a storage site. Follow the normal procedure for dismounting from the plow.
2. Touch-up any rust spots or chipped paint.
3. Loosen the trip springs.
4. Grease the slip hitch assembly and wing hinge bushings.

Taking the Plow out of Storage

1. Check all fasteners for tightness. *See Recommended Bolt Torque located in this manual.*
2. Tighten the trip springs.
3. Grease the slip hitch assembly and wing hinge bushings.

Recommended Bolt Torque

GUIDE TO RECOMMENDED ASSEMBLY TORQUE



DIAMETER / PITCH	GRADE 5	GRADE 8	GRADE 8.8	GRADE 10.9
1/4-20	6	9		
5/16-18	14	19		
3/8-16	23	33		
7/16-14	38	53		
1/2-13	56	80		
9/16-12	82	116		
5/8-11	113	159		
3/4-10	201	283		
M10 X 1.25			36	
M10 X 1.5				49
M12 X 1.75				71
M14 X 2.0				80

ALL TORQUE VALUES ARE IN FOOT-POUNDS (FT.-LB.)

Figure 8. Recommended Bolt Torque

G10410

NOTE: The torque values listed above are based on dry, coated bolts, variables such as oil, or other lubrications may appreciably alter these values and must be taken into consideration.

NOTICE: IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING PLOW. RE-TIGHTEN ALL FASTENERS AFTER 2 HOURS OF PLOWING.

BOSS SNOWPLOW COMMERCIAL WARRANTY

What this warranty covers:

This warranty covers defects in material and workmanship except as set forth below.

Who is covered:

The original purchaser from an authorized dealer.

For how long:

Parts: 2 years from the date of purchase.

Labor: 2 years from the date of purchase.

What BOSS PRODUCTS will do:

BOSS PRODUCTS will, at its sole option, repair or replace defective parts at no charge.

What you must do to for warranty service:

To obtain warranty service, purchaser must return the defective snowplow to any authorized BOSS PRODUCTS dealer (preferably the one from whom the snowplow was purchased) within the warranty period. Purchaser must be able to verify the original purchase date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

What is not covered:

This warranty does not cover:

1. Expendable parts such as hoses, plow shoes, cutting edges, pins, nuts, bolts, blade guides, etc.
2. Snowplows or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Snowplows or parts which have been subject to misuse, negligence, accident, improper installation, maintenance, care or storage.
4. Snowplows mounted on vehicles other than those listed in the BOSS SNOWPLOW APPLICATION CHART AND SELECTION GUIDE.
5. BOSS PRODUCTS does not assume liability for damage to your motor vehicle resulting from the attachment or use of a BOSS PRODUCTS snowplow. Vehicle risk is the sole responsibility of the purchaser.

Limits of BOSS Products Liability are:

BOSS PRODUCT'S LIABILITY IS EXPRESSLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY THE NEGLIGENCE OR FAULT OF BOSS PRODUCTS.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This warranty does not apply if you purchased your snowplow for personal, family, or household use. In this case, refer to the BOSS Snowplow Limited Consumer Warranty.

BOSS PRODUCTS is a division of

Northern Star Industries, Inc.
PO Box 787
1819 N Stephenson Ave.
Iron Mountain, MI 49801

(2010-2011)

Maintenance and Storage

BOSS SNOWPLOW LIMITED CONSUMER WARRANTY

What the warranty covers:

BOSS PRODUCTS warrants to the original retail purchaser of a BOSS snowplow who purchases it for personal, family or household use, that the snowplow will be free from defects in material and workmanship except as set forth below.

Warranty period:

Parts: 2 years from the date of purchase.

Labor: 2 years from the date of purchase.

What BOSS PRODUCTS will do:

If, within the warranty period, the snowplow is found to be defective, BOSS PRODUCTS will repair or replace, at its sole option, the defective parts at no charge to the original purchaser.

What you must do for warranty service:

To obtain service under this warranty, purchaser must return the defective snowplow to an authorized BOSS PRODUCTS dealer (preferably the one from whom the snowplow was purchased). The purchaser must establish the warranty period by verifying the original purchased date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

What is not covered:

This limited warranty does not cover the following:

1. Expendable parts such as hoses, plow shoes, cutting edges, pins, nuts, bolts, blade guides, etc.
2. Snowplows or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Snowplows or parts which have been subject to misuse or service, negligence, accident, improper installation, maintenance, care or storage.
4. Snowplows mounted on vehicles other than those listed in the BOSS SNOWPLOW APPLICATION CHART AND SELECTION GUIDE.
5. BOSS PRODUCTS does not assume any liability for motor vehicle damage resulting from the attachment or use of a BOSS PRODUCTS snowplow. Vehicle risk is the sole responsibility of the purchaser.

Warranty limitations:

THIS WARRANTY IS OFFERED IN LIEU OF ANY OTHER EXPRESS WARRANTY.

THE DURATION OF ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.

BOSS PRODUCTS LIABILITY IS EXPRESSLY LIMITED TO THE REPAIR OF THE SNOWPLOW, INCLUDING LABOR AND REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY BOSS PRODUCTS NEGLIGENCE OR FAULT.

State laws:

Some states do not allow exclusion of incidental or consequential damages or the limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have the other rights which vary from state to state.

This warranty does not apply if you purchased your snowplow for other than personal, family, or household use. If so, refer to the BOSS Snowplow Commercial Warranty.

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